

115551A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

FIG. 2

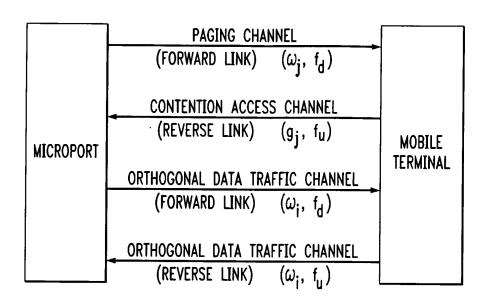
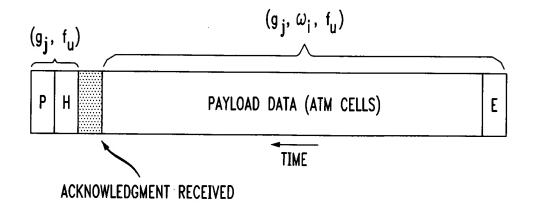


FIG. 3α



113551A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

FIG. 3b

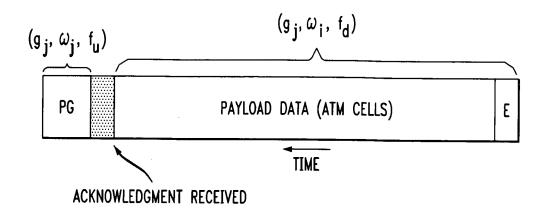
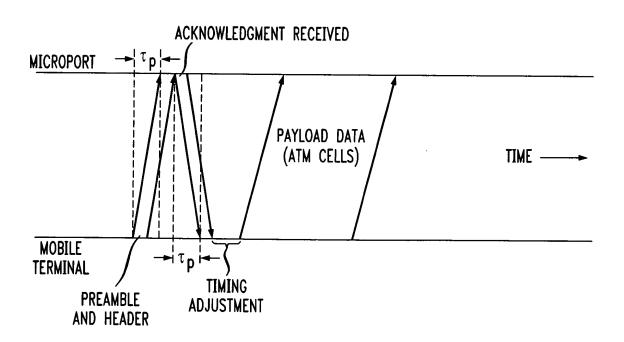
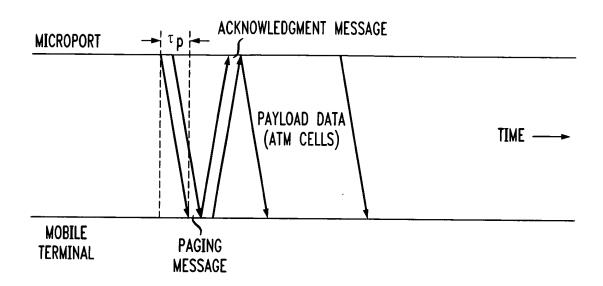


FIG. 4α



115551A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

FIG. 4b



113351A

Serial No.: 09/770,858, Filed 1/26/2001

Replacement Sheet

5/15

FIG. 5α



THE MOBILE SUBSCRIBER TERMINAL TRANSMITS A PREAMBLE SIGNAL SPREAD BY A PN-CODE g_j (IDENTIFYING THE MICROPORT AND "MARKS" THE POINT OF THE TIME ORIGIN. FOLLOWING THE PREAMBLE, A FEW BITS OF DATA ARE TRANSMITTED THAT IDENTIFY THE TRANSMITTING MOBILE USER. THIS CONSTITUTES THE PACKET HEADER AND IS ALSO SPREAD BY THE PN-CODE g_j .

505

AFTER AN ACKNOWLEDGMENT IS RECEIVED WITHIN TIME-OUT PERIOD, THE MOBILE SUBSCRIBER TERMINAL SPREADS THE INFORMATION AND DATA (i.e., ATM CELL) BY BOTH THE ASSIGNED ORTHOGONAL CODE (CONTAINED IN THE ACKNOWLEDGMENT) AND THE PN-CODE. THE MOBILE SUBSCRIBER TERMINAL ALSO ADJUSTS ITS TRANSMISSION TIME (WITH RESPECT TO THE MARKED POINT MAINTAINED BY THE MICROPORT) BY THE AMOUNT INDICATED IN THE ACKNOWLEDGMENT SO THAT ALL TRANSMISSIONS ARE SYNCHRONIZED. IF NO ACKNOWLEDGMENT IS RECEIVED WITHIN TIME-OUT, THE MOBILE RETRANSMITS THE PREAMBLE AND HEADER.

AFTER THE END OF THE INFORMATION AND DATA, THE MOBILE SUBSCRIBER TERMINAL SENDS AN END OF PACKET FLAG, WHICH IS ALSO SPREAD BY THE ORTHOGONAL AND PN CODES. THE ASSIGNED ORTHOGONAL CODE IS RELEASED, MAKING THAT UNIQUE CODE AVAILABLE FOR RE-USE.

515

END

113351A Serial No.: 09/770,858, Filed 1/26/2001

Replacement Sheet

6/15

FIG. 5b



THE MICROPORT RECEIVER ACQUIRES (SYNCHRONIZES TO) THE PN-CODE g_j DURING THE TRANSMISSION OF THE PREAMBLE THE HEADER IS RECEIVED AND ALSO DE-SPREAD BY THE PN-CODE.

~ 520

IF THE HEADER DATA IS SUCCESSFULLY RECEIVED, THE RECEIVING MICROPORT SEND AN ACKNOWLEDGMENT CONTAINING AN UNIQUELY ASSIGNED ORTHOGONAL CODE FOR THE ORIGINATING MOBILE USER AND THE REQUIRED TIMING ADJUSTMENTS FOR THE MOBILE USER.

525

THE RECEIVING MICROPORT RECEIVES THE INFORMATION AND DATA (PAYLOAD DATA) AND PROCESSES THE DATA BY DE-SPREADING THE INFORMATION AND DATA WITH BOTH THE ASSIGNED ORTHOGONAL CODE AND THE PN-CODE.

530

IF THE INFORMATION AND DATA ARE SUCCESSFULLY RECEIVED, THEN AN ATM PACKET (CELL) IS CREATED AND ROUTED THROUGH THE CORE NETWORK, AFTER THE END OF THE PACKET FLAG IS RECEIVED THEN THE ASSIGNED ORTHOGONAL CODE IS RELEASED.

` 535

END

113351A

Serial No.: 09/770,858, Filed 1/26/2001

Replacement Sheet

7/15

FIG. 5c



UPON THE ARRIVAL OF ONE OR MORE ATM CELLS AT THE TRANSMITTING MICROPORT, DESTINED FOR A MOBILE USER TERMINAL, A PAGING MESSAGE IS SENT TO THE MOBILE USER TERMINAL VIA THE PAGING CHANNEL.

~ 540

AFTER AN ACKNOWLEDGMENT IS RECEIVED FROM THE DESTINATION MOBILE USER TERMINAL, THE TRANSMITTING MICROPORT SPREADS THE PAYLOAD DATA (EXTRACTED FROM THE ATM CELLS) WITH THE UNIQUELY ASSIGNED ORTHOGONAL CODE ω_i and transmits the spread data to the destination mobile user terminal.

545

IF, AFTER A TIME-OUT PERIOD, NO NEGATIVE ACKNOWLEDGMENT IS RECEIVED, THE TRANSMITTING MICROPORT ASSUMES CORRECT RECEPTION OF THE DATA AND RELEASES THE ASSIGNED (FORWARD LINK) ORTHOGONAL CODE AVAILABLE FOR OTHER TRANSMISSIONS.

> 550

END

113351A Serial No.: 09/770,858, Filed 1/26/2001

Replacement Sheet

8/15

FIG. 5d

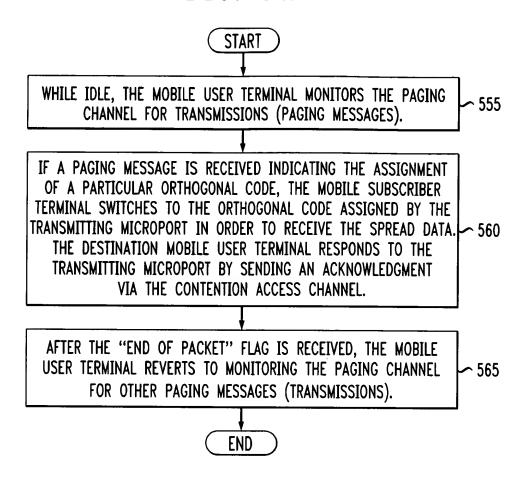
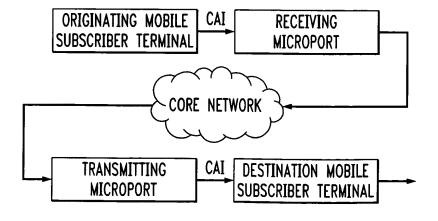
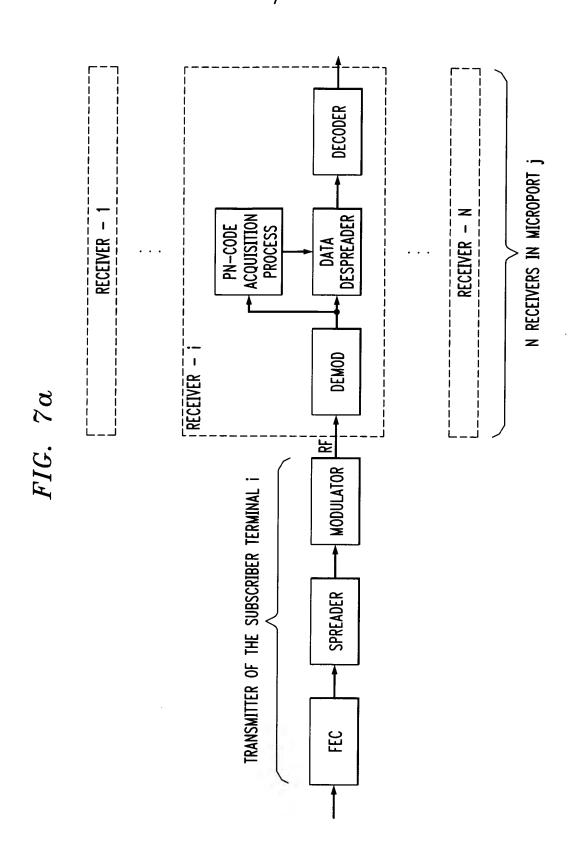


FIG. 6



113351A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

9/15



113551A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

10/15

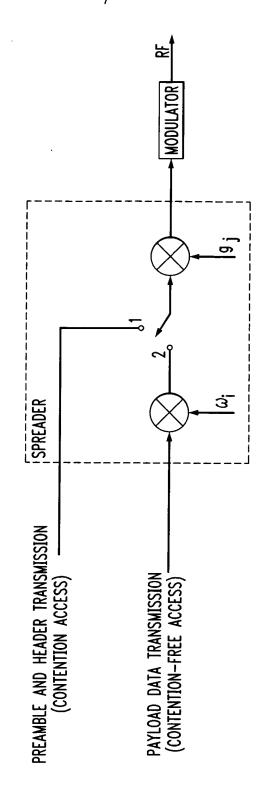
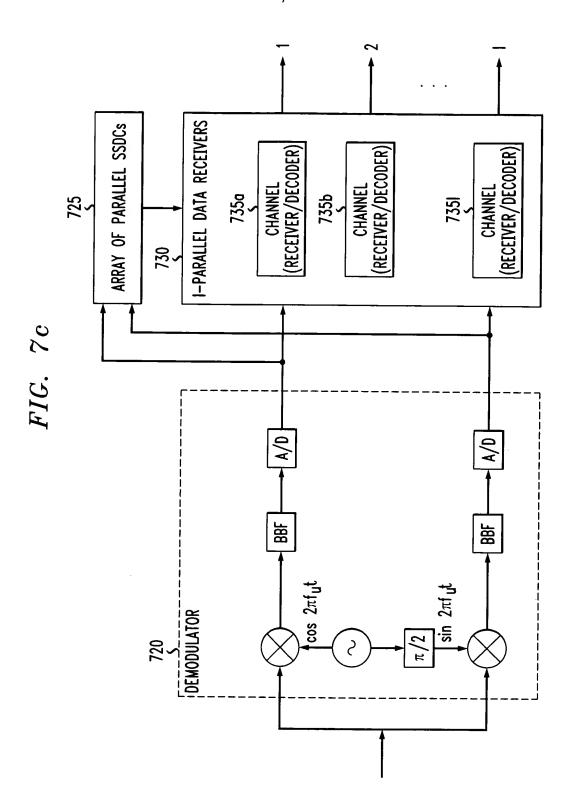


FIG. 7b

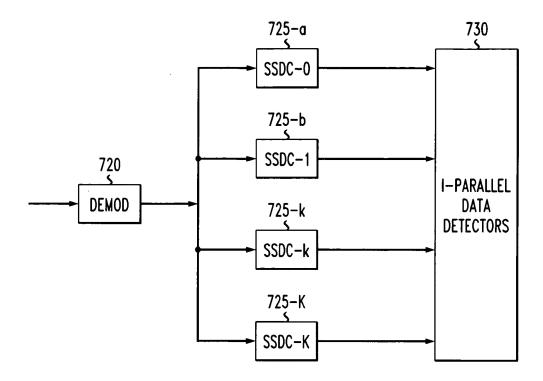
113351A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

11/15



115551A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

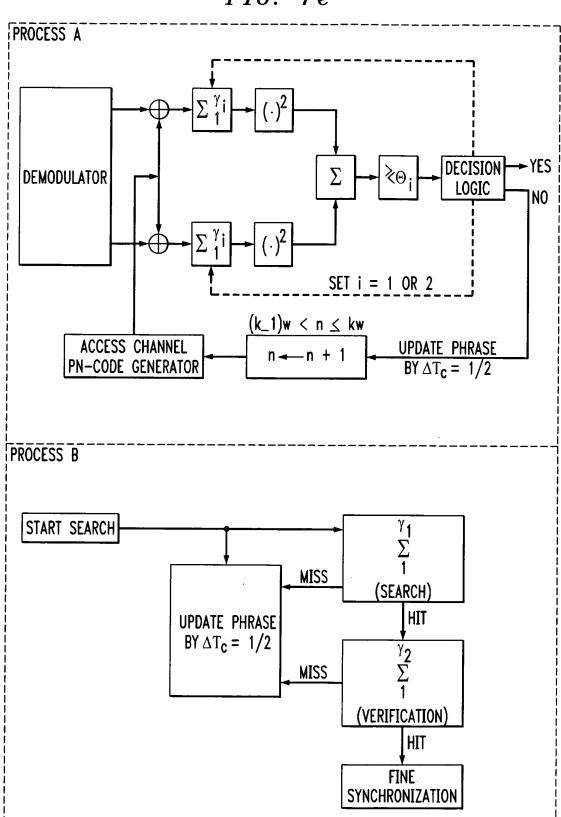
FIG. 7d



115551A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

13/15

FIG. 7e



113351A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

FIG. 7f

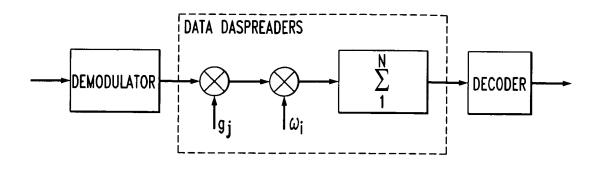
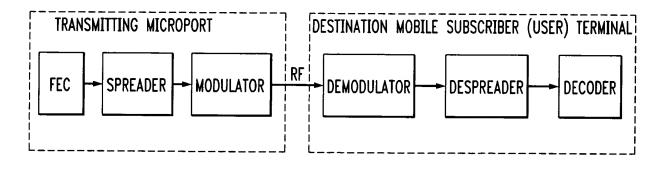


FIG. 8a



113351A Serial No.: 09/770,858, Filed 1/26/2001 Replacement Sheet

FIG. 8b

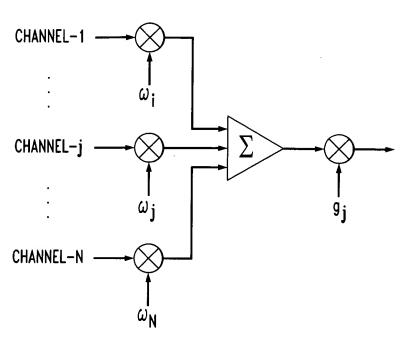


FIG. 8c

